

1. Introduction



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Milwaukee is a good place to get around by bike and it is getting better every year. Much like the rebirth of the city's traditional neighborhoods, bicycling is experiencing a local renaissance and is up almost 300% in the last five years according to Census data. Milwaukee's grid-like street network and diverse neighborhoods are the bones around which can grow a truly great city for cycling. The 2010 *Milwaukee by Bike* Master Plan was written to help nurture and guide that growth over the next five to ten years.

The main chapters of this plan detail core ideas and recommendations for improving cycling conditions and increasing cycling in Milwaukee. This plan also includes maps of current and proposed facilities within the city. A CD included with this plan includes a series of appendices that document current bicycling conditions in Milwaukee, policies affecting cycling locally, the analysis and process used to create this plan, and more detailed descriptions of specific recommendations. The CD also contains previous planning documents that provide in-depth information on specific topics, including the *Bicycle Publicity Plan*, the *Off-Street Bikeway Study* and the *Milwaukee Parking Project Report*.

Bicycling in Milwaukee Today

Milwaukee has made great strides in cycling since the release of the first bicycling master plan, *Bicycle Milwaukee*, in 1993. The city currently has over 110 miles of on-street bike lanes and bike routes; over three miles of city-owned bike paths or trails also exist. This city-owned network ties into an extensive system of County and State managed paths and trails including the Hank Aaron State Trail and the Oak Leaf Trail. These facilities, as well as numerous programs to encourage cycling and educate residents about cycling, are detailed in Appendix A: Existing Conditions. Federal, state, county and city policies and laws that impact cycling in Milwaukee are detailed in Appendix B: Policy Inventory and Legal Codes.

To analyze current bicycling conditions in Milwaukee as well as potential future conditions and benefits, a Cycle Zone Analysis was performed by Alta Planning + Design. This analysis divided the city into six zones, each of which was analyzed for bicycling levels and air quality. Advanced modeling was then used to project future bicycling usage in the city as well as the benefits to air quality in the city. A full description of the Cycle Zones and how they were determined is presented in

Appendix C: Cycle Zone Analysis.

Milwaukee has seen rapid growth in cycling in recent years: in 2006 approximately 0.47% of all trips to work were made by bike in the city, a rate that was nearly identical to the national average. By 2008, the city's rate had grown to 1.16% of all trips, a rate that was more than double the national rate. A study conducted for this plan on current bicycle usage in Milwaukee estimated that over 81,000 trips are made by bike each day in the city; by 2030 this number is expected to double to more than 162,000 daily bicycle trips. This study and the assumptions and methodology used to arrive at these figures is detailed in Appendix D: Quantifying Current and Future Demand for Bicycle Facilities. It is important that the city plan for this growth by providing bicycle facilities that are comfortable for all levels of cyclists and is well-connected throughout the city.

There is a general perception among those who do not ride bicycles that cycling on the street is inherently unsafe; this belief keeps many residents from cycling more, or at all. In fact, cycling in Milwaukee is quite safe, and is getting safer every year. As more cyclists have taken to the streets in recent years, the crash rate has consistently fallen. Detailed safety information is presented in Appendix E: Safety Analysis.

Milwaukee is already a great place to ride a bike, but there are improvements that can continue to be made. This plan makes recommendations that build on past gains in cycling and work to make cycling a safe, accessible and environmentally friendly form of transportation and recreation for all Milwaukee residents.



A young family rides home from Golda Meier School

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Vision for Milwaukee 2020

In 2020, Milwaukee's neighborhoods will be filled with a noticeable diversity of people riding bicycles on innovative bicycle facilities. Milwaukee is an economically and environmentally healthy world-class city for cycling where people of all ages and abilities have attractive, convenient and safe options to make recreational and utilitarian trips by bicycle.

Why invest in bicycling?

Bicycling can lower the cost of congestion

Most people dislike being stuck in traffic, but congestion has greater impacts than increasing the frustration levels of motorists. According to the Texas Transportation Research Institute, annual congestion costs the city of Milwaukee and its businesses about \$300 million collectively and individual travelers \$382 in lost time and productivity. Half of all trips in Milwaukee are three miles or less, a distance that can be easily traveled in less than 20 minutes on a bike, and 28% of all trips are less than one mile. Despite the fact that these trips can be easily made on a bicycle or walking, motor vehicles are used for over 80% of these short trips. Walking or cycling for these very short trips could significantly reduce congestion on Milwaukee streets. The associated reductions in congestion could boost the local economy by tens of millions of dollars in reduced costs to businesses and provide more disposable income and time to residents.

Bicycling can raise the quality of life

Like many other Midwestern industrial leaders of the past, Milwaukee is in the process of reinventing itself to attract new businesses and a creative, talented and well educated workforce. The Wall Street Journal lists Portland, Seattle, Minneapolis and Austin among the top "Youth Magnet Cities" in the country.¹ These are places where young college educated people move for the urban culture and recreational opportunities rather than for a job; they then look for employment after they relocate. It is no coincidence that these popular cities are also among the best cities for cycling in the country.

These "Youth Magnets" have factors other than their status as bicycle friendly cities that help them attract



Signed bicycle routes guide cyclists to destinations and preferred routes throughout the City

workers: climate, economy, good transit, arts and culture are also commonalities. However, it is clear that bicycles seem to be at least an indicator of vibrant and economically healthy cities.

Bicycling can improve the health of residents

That these same economically healthy, bicycle friendly cities have lower health care costs is no accident. Cycling is a great way to build physical activity into a person's daily routine and is a prescription for health. Recently, the Milwaukee Metropolitan Association of Commerce released a "Blueprint for Progress" that emphasizes personal lifestyle changes to decrease local healthcare costs to businesses.

According to an article by Tim Sheehy of the MMAC, "When 20% of the population accounts for 75% of health care spending that can be impacted by lifestyle choices, wellness and prevention are the place to start."² Not everyone is going to bike to work or the store, but many car trips can be replaced by a bike trip. In fact, almost half of all trips made by car in Milwaukee could be replaced with a 20 minute or shorter bike trip. More people will ride bicycles for exercise if they have attractive and convenient places to ride in their own neighborhood. Creating an attractive and convenient bicycle network is part of becoming a "Well City."

¹ Dougherty, Conor. "'Youth Magnet' Cities Hit Midlife Crisis." The Wall Street Journal. 16 May 2009. <<http://online.wsj.com/article/SB124242099361525009.html>>.

² Sheehy, Tim. "Benchmarking Milwaukee's Economic Progress." Milwaukee Biz Blog. BizTimes.com. 17 Nov. 2009. <<http://www.biztimes.com/blogs/milwaukee-biz-blog/2009/11/13/benchmarking-milwaukee-economic-progress>>.

Bicycling can improve local air quality

The Environmental Protection Agency recently proposed stricter national ozone standards and the Wisconsin State Legislature is proposing a climate change bill with additional air quality standards. Milwaukee is already classified as a non-attainment area for ozone and will be further out of compliance when standards are tightened. Striving for better air quality is not just about meeting EPA or state requirements. Increased air quality provides health benefits to residents and reduces the region's contribution to climate change. Milwaukee residents can take personal responsibility to improve local air quality by replacing short motor vehicle trips with cycling and walking. Even the modest gains proposed in this plan would result in reductions in over 16 million tons of ozone causing pollutants annually (see Appendix F: Existing and Potential Future Air Quality Benefits by Cycle Zone).

If bicycling is so great, why don't more Milwaukee residents do it?

According to a survey done for this plan by the University of Wisconsin-Milwaukee, 49% of Milwaukee residents have bikes, and most residents would like to bike more. That survey also indicated that many of these people do not think it is safe to ride bicycles mixed with motor vehicles. Despite this perception that cycling is not safe, crash analysis shows that bicycling



Students leaning to ride safely at a Bike Camp. Children and youths may have significantly different needs as cyclists than an adult daily bicycle commuter.

is inherently safe in Milwaukee. The city's bicycle crash rate has decreased 75% in the last five years alone. This plan includes recommendations to spread the word on how safe cycling really is in Milwaukee.

The same UWM survey showed that people would ride more often if they had a bike trail closer to their homes. Although there is not room for separated bike paths in every neighborhood, this plan recommends innovative bicycle facilities that will appeal to people who prefer not to mix with heavy traffic.

The Needs of Different Types of Cyclists

Throughout the public information gathering process, it became clear that there is a broad spectrum of Milwaukee residents who ride bicycles for many different reasons. Cyclists span a wider age range than motorists, have vastly different experience and comfort levels, and have different reasons for riding a bike. This next section briefly explores the needs of different types of cyclists, the spectrum of experience and interest levels of cyclists, and the differing needs of cyclists depending on the purpose of their trip.

Bicyclist Needs

The goals and objectives proposed in this plan were written to answer the wide range of needs discovered in the public input process. The purpose of reviewing the needs of bicyclists is twofold: it is instrumental when planning a system that must serve different skill levels and different trip types, and it is useful when attempting to quantify future usage and benefits to justify expenditures of resources. According to the 2002 National Survey of Pedestrian and Bicycling Attitudes and Behaviors, approximately 57 million people (27.3% of the population age 16 or older) rode a bicycle at least once during the summer of 2002. About half of all the survey respondents over the age of 16 reported being "very" or "somewhat" satisfied about how their communities are designed with regard to bicycle safety. This indicates that there is a large reservoir of potential bicyclists who do not ride simply because they do not feel comfortable using the existing street system.

While the majority of Americans own bicycles, most of these people are recreational riders who ride relatively infrequently. Schoolchildren between the ages of about 6 and 14 typically make up a large percentage of bicycle riders, often riding to school, parks or other local

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destinations. The more dedicated adult road bicyclist makes up a small, but important, segment of bikeways users, along with serious off-road mountain bicyclists, who enjoy riding on trails and dirt roads. The single biggest adult group of bicyclists is the intermittent recreational rider who generally prefers to ride on pathways or quiet side streets.

Milwaukee's bicycle spectrum

Milwaukeeans' feelings about bicycling vary widely. The range begins with those people not interested in bicycling for any reason and goes to those who ride every day in any traffic no matter the weather. Most people fall somewhere in between those extremes and the routes they choose to ride may vary from one trip to the next. Many children younger than 10 have not developed the cognitive skills necessary to estimate gaps in traffic and speeds of approaching vehicles, while youths under age 16 may be unfamiliar with operating a vehicle on roads and the related laws, yet they ride regularly to visit friends or for recreation. There are also adults who know how to ride a bike and understand the rules of the road, but only ride on trails on weekends or have not ridden since childhood. These people are interested in cycling more, but are uneasy about mixing with motorized traffic. Experienced cyclists include commuters, long-distance road cyclists, racers and those who use their bicycle as a primary means of transportation in any weather. These people generally feel comfortable



Participants wait for the start of a group ride on the Hank Aaron State Trail

riding on streets and with traffic, but sometimes prefer to ride on a quiet side street or an off-street trail.

Milwaukee has done a good job creating bike lanes for the more experienced cyclists. At the same time, the local trail systems provide options for people who are more timid about riding with traffic or want to ride recreationally. However, as noted earlier, the majority of people fall in between these two extremes. This majority is interested in bicycling, but often worries about mixing with motor vehicles. These needs and concerns must be addressed. In order to get more people replacing their short car trips with bicycle trips, Milwaukee must create a bikeway network beyond bike lanes and recreational trails. The city must build bike facilities that this interested but concerned majority feels are attractive, convenient and safe.

Recreational versus utilitarian trips

Utilitarian bicycle trips are an important focus of this bicycle plan, but no more so than recreational trips. Bicycling remains a wonderfully healthy and popular form of recreation in Milwaukee. Tens of thousands of people participate annually in charity rides like Milwaukee's famous Miller Lite Ride for the Arts, the Tour de Cure, the Trek 100 Ride for Hope and others. These rides are often family summer rituals and raise millions of dollars for charities every year.

Just as popular as these events are casual rides by individuals, families and groups of friends on local off-street trails. Automated and manual counts show Milwaukee's Oak Leaf Trail attracts hundreds of thousands of riders per month from March through November. The Milwaukee area is also blessed with mountain bike trails that offer an urban escape few other large cities can match.

Racing is another important component of recreational cycling. Milwaukeeans participate in the full range of bicycle racing from weekend warriors to professionals. The Milwaukee area can boast about world-class road racing, track racing, BMX, mountain biking, triathlons, alleycats and even bike polo.

Milwaukee's reputation as a bicycle friendly community with great recreational bicycling opportunities draws tourists from across the country and around the world. The Department of Public Works gets hundreds of request for bicycle maps from tourists and racers planning trips to Milwaukee each year.

Recreational cyclists' needs vary depending on their skill level. Road cyclists out for a 100-mile weekend ride may prefer well-maintained roads with wide shoulders and few intersections, stop signs or stop lights. Casual cyclists out for a family trip may prefer a quiet bike path with adjacent parks, benches and water fountains.

Utilitarian trips have a specific focus other than recreation. These trips include commuting, trips to the store, and riding as transportation to a specific destination. Utilitarian bicyclists have needs that are more straightforward. They require bike lanes or wider curb lanes along all arterials and collectors, loop detectors at signalized intersections and adequate maintenance of the pavement. At destination points, commuters require adequate long-term bicycle storage and benefit from showers or changing facilities; shoppers require conveniently located short-term bicycle parking.

Table 1: Characteristics of Recreational and Utilitarian Trips

Recreational Trips	Utilitarian Trips
Directness of route not as important as visual interest, shade and protection from wind	Directness of route more important than visual interest
Loop trips may be preferred to backtracking	Trips generally travel from residential to shopping or work areas and back
Trips may range from short to over 50 miles	Trips generally are 1-5 miles in length
Short-term bicycle parking should be provided at parks, trailheads and other recreational sites	Short-term and long-term bicycle parking should be provided at stores, transit stations, schools and workplaces
May be riding in a group	Often ride alone
May drive with their bicycles to the start of a ride	Use bicycle as primary transportation mode for the trip
Trips typically occur on the weekend or weekday afternoons	Trips typically occur during morning and evening commute hours (commute to school and work); shopping trips also occur on weekends
Type of facility varies depending on the skill level of cyclist	Generally use on-street facilities, may use pathways if they provide easier access to destinations than on-street facilities

Conclusion

Milwaukee is a safe place to bicycle with numerous paths, bike lanes and bike routes. The city has seen strong growth in cycling in recent years, particularly after adding a basic network of bicycle lanes. While many potential cyclists are not aware of these trends, and some who are may not be comfortable riding under existing conditions. This plan proposes new and expanded bicycle facilities and support facilities; education, encouragement and enforcement programs for cycling; and evaluation programs to monitor cycling in the city. Implementation of these recommendations will set Milwaukee on the path to become a world-class city for bicycling while increasing participation in cycling and the safety of those on bikes.